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EXAMINER	
APPIAH, CHARLES NANA	
ART UNIT	**PAPER NUMBER**
2686	

DATE MAILED: 06/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/933,500	O'HAGAN ET AL.	
	Examiner	Art Unit	
	Charles Appiah	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8-28 and 30-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-28 and 30-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 8-28 and 30-39 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 30 which depends on cancelled claim 29 has been renumbered as being dependent on claim 23.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claim 20 is rejected under 35 U.S.C. 102(e) as being anticipated by **Ekelund (5,630,205).**

Regarding claim 20 Ekelund discloses a portable data terminal (see Fig. 1), comprising: input means for inputting data (I/O 28, keyboard 32, microphone/speaker 24), an RF transceiver (transmitter 14, receiver 20) for transmitting data input via the input means to a remote location (see col. 3, lines 1-5), a memory (34), a speaker (24) a control circuit (18, 26), operatively coupled to the RF transceiver and the speaker, (see

col. 3, lines 8-17), storing voice data in the memory as at least one voice mail message (compressing a message received over the air interface in codec 22 and storing that message in memory 34, see col. 3, lines 62-64), and selectively converting the at least one voice mail message to a voice signal which is output through the speaker (retrieving message form memory, decompressing the message and outputting the message from the microphone/speaker, see col. 3, lines 64-66), a display for displaying indicia of the at least one voice mail message stored in the memory (feature of message(s) stored indication being for example a lit LED or more expensive units, in which a decompressed and output message is activated, e.g., "You have 4 messages", see col. 4, lines 49-54), and an input operatively coupled to the control circuit for selecting the at least one voice mail message to be converted based on the indicia on the display (user requesting that the messages be replayed by being decompressed by codec and output over microphone/speaker 24, see col. 4, lines 44-49).

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 8-14, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tsukamoto et al. (5,128,981)** in view of **Gollnick et al. (5,940,771)** and further in view of **Ekelund (5,630,205).**

Regarding claims 8 and 20, Tsukamoto discloses a portable data collection network, comprising: (see Figs. 1, 2, and 13), a hardwired backbone, a plurality of

access points (base stations 3, 31-33), a plurality of portable data terminals (1, 41-43), each of the plurality of portable data terminals comprising: input means for inputting data (key 117), an RF transceiver (101, 102), for communicating with at least one device coupled to the backbone network via at least one of the plurality of access points (see Fig. 1), a speaker (160), a microphone (127) and a control circuit (111, 110), operatively coupled to the input means , the RF transceiver being configured to communicate information in packets and the speaker (see col. 12, lines 21-44), for selectively enabling the RF transceiver to transmit first data based on data input via the input means (see col. 22, lines 30-46, col. 26, lines 15-30) and second data based on a voice signal provided via the microphone (col. 12, lines 40-42) and for converting voice data received by the RF transceiver into a voice signal which is output through the speaker (see col. 22, lines 30-46, col. 26, lines 15-30).

Tsukamoto fails to teach that the RF transceiver communicates information in packets in accordance with a carrier sense access (CSMA) protocol.

The use of CSMA protocol for packet communication in local in wireless networks such as LANs is very well known in the art as taught for example by Gollnick. Gollnick discloses a data collection that supports roaming terminals (see Fig. 18). Gollnick teaches the use of standard CSMA protocol that requires a roaming terminal to listen long enough to identify an apparently clear channel before sending an RFP frame in order to avoid collisions in a data capture system (see col. 21, lines 34-67, col. 27, lines 1-46).

It would therefore have been obvious to one of ordinary skill in the art to use the CSMA protocol of Gollnick in the communication system of Tsukamoto in order to ensure the capability of waiting for a random period before sensing the status of a communication channel for transmission.

Tsukamoto as modified by Gollnick fail to disclose receiving first voice data via the RF transceiver and storing first voice data in memory as at least one voice mail message and for receiving second voice data via the RF transceiver and converting second voice data into a voice signal which is output through the speaker.

Ekelund discloses a mobile phone having voice message capability that includes storing voice data in the memory as at least one voice mail message (compressing a message received over the air interface in codec 22 and storing that message in memory 34, see col. 3, lines 62-64), and selectively converting the at least one voice mail message to a voice signal which is output through the speaker (retrieving message form memory, decompressing the message and outputting the message from the microphone/speaker, see col. 3, lines 64-66), a display for displaying indicia of the at least one voice mail message stored in the memory (feature of message(s) stored indication being for example a lit LED or more expensive units, in which a decompressed and output message is activated, e.g., "You have 4 messages", see col. 4, lines 49-54), and an input operatively coupled to the control circuit for selecting the at least one voice mail message to be converted based on the indicia on the display (user requesting that the messages be replayed by being decompressed by codec and output over microphone/speaker 24, see col. 4, lines 44-49).

It would therefore have been obvious to one of ordinary skill in the art to combine Ekelund's mobile unit that use compression circuitry and algorithms in conjunction with a memory device to store and retrieve messages with Tsukamoto and Gollnick's system in order to realize the benefits of voice storage and data compression in a mobile terminal in an economical and feasible manner without adding to the size and cost of the mobile device as taught by Ekelund.

Regarding claims 9 and 12, Tsukamoto further teaches a portable data terminal that includes automatically transitions to a receive telephone call state upon receiving a ring packet from the at least one device via the RF transceiver, the ring packet containing indicia representing a request that the portable terminal enter a conversation state in which voice data may be exchanged between the portable data terminal and the at least one device via the RF transceiver, and wherein the portable data terminal in the receive telephone call state generates at least one of audible ring indicator and a visual ring indicator (see col. 3, lines 50-55, col. 4, lines 19-23, col. 20, lines 8-27).

Regarding claim 10, the combination of Tsukamoto and Gollnick as modified by Ekelund further teach wherein the portable data terminal transitions out of the telephone call state in response to a hang-up packet received from the at least one device via the RF transceiver, the hang-up packet including indicia representing a request that the portable terminal transition out of the receive telephone call state (see Tsukamoto, col. 20, lines 8-20).

Regarding claim 11, Tsukamoto inherently teaches that the portable terminal transitions out of the receive telephone call state in response to an operator input

representing a request by the operator that the portable terminal transition out of the telephone call state (it is inherent that when a call is terminated and the user hangs up, the on-hook signal indicates a transition from the telephone call state after the communication with ringing mode leading to talking as illustrated in Fig. 20).

Regarding claim 13, Tsukamoto further discloses wherein the at least one device comprises another portable data terminal (see Fig. 13).

Regarding claims 14-15, Tsukamoto further discloses wherein the portable data terminal itself transitions to the conversation state upon receiving an answer packet from the at least one device via the RF transceiver, the answer packet including indicia representing that the at least one device has transitioned to the conversation state (see Fig. 20), wherein the answer packet further comprises voice data which is converted into a voice signal by the control circuit wherein the answer packet further comprises voice data which is converted into a voice signal by the control circuit (see col. 22, lines 30-46, col. 26, lines 15-30).

Regarding claim 16, Tsukamoto's teaching of the key, which is pushed after receiving a communication mode request as illustrated in Fig. 25 (see col. 20, 8-27) meets a push-to-talk input for controlling inputting of the second data via the microphone and the transmitting of the second data via the RF transceiver (see col. 22, lines 30-46).

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tsukamoto et al, Gollnick and Ekelund** as applied to claim 14 above, and further in view of **Rahnema (5,465,253).**

Regarding claim 19,Tsukamoto as modified by Gollnick and Ekelund fail to disclose wherein in the conversation state, the voice data is digitized and compressed prior to being included in packets and transmitted by the RF transceiver.

Rahnema discloses a method for transmitting and receiving packetized voice information over a limited number of channels (see abstract). According to Rahnema discloses that traffic channels are organized into blocks of channels and each traffic channel is used to carry one packet worth of compressed digitized voice data which is then transmitted at a bit rate of 50 kilobits/second on the assigned traffic channel (see col. 3, line 63 to col. 4, line 4).

It would therefore have been obvious to one of ordinary skill in the art to use the of compressed digitized voice signals of Rahnema with Tsukamoto, Gollnick and Ekelund's communication system in order to prevent the tying up of scant communication resources as taught by Rahnema.

7. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tsukamoto et al and Ekelund** as applied to claim 20 above, and further in view of **Amin (6,006,087).**

Regarding claims 21 and 22 Ekelund further discloses a display for displaying I/O signals from the keyboard through the microprocessor (see col. 3, lines 15-17, Fig. 1) and the message stored indication could for example be a lit LED or for more expensive units, comprise a message stored in memory that is decompressed and output when the mobile unit is activated, e.g., "you have 4 messages" (see col. 4, lines 49-54). The combination of Tsukamoto and Ekelund, however, fails to teach that the

display presents the indicia on the display as lines of text, with different lines representing different voice mail messages where the input controls the position of a cursor shown on the display in relation to the lines of text.

Amin discloses a system for delivering a voice mail notification to a subscriber of a voice mail system to indicate that a voice mail is waiting in a subscriber mailbox (see abstract). According to Amin, the cellular telephone has a storage device and a display for storing and displaying a plurality of voice mail notifications, with the display having the capability of showing an index which includes an appended number corresponding to the voice mail and the index of all voice messages is stored within the phone such that the display can be scrolled to indicate the various identities of the stored messages such that a user can retrieve a specific message by highlighting a specific message and pressing a send button positioned on the phone (see col. 1, line 30 to col. 2, line 9, col. 4, lines 44-67). Amin further discloses wherein the display presents the indicia on the display as lines of text, with different lines representing voice messages (see Fig. 2, col. 4, lines 44-59), and where the input controls the position of a cursor shown on the display in relation to lines of text (see col. 4, lines 60-67).

It would therefore have been obvious to one of ordinary skill in the art to combine the voice mail notification system of Amin with Tsukamoto as modified by Ekelund's communication system in order to forward voice mail message notification indicating that a subscriber has one or more voice mail messages for selective retrieval in an efficient manner as taught by Amin.

8. Claims 23, 24, 27, 29, 32, 35-37, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tsukamoto et al. (5,128,981)** in view of **Ekelund (5,630,205)**.

Regarding claim 23, Tsukamoto discloses a portable data collection network, comprising: (see Figs. 1 and 2), a hardwired backbone (base stations 3, controller 4 and data processing unit 2), a plurality of access points (base stations 3), a plurality of portable data terminals (1), each of the plurality of portable data terminals comprising: input means for inputting data (key 117), an RF transceiver (101, 102), for communicating with at least one device (data processing unit), coupled to backbone network via at least one of the plurality of access points (see Fig. 1), a speaker (160), and a control circuit (111, 110), operatively coupled to the input means , the RF transceiver and the speaker (see col. 12, lines 21-44), for selectively enabling the RF transceiver to transmit data based on data input via the input means and to convert voice data received by the RF transceiver into a voice signal which is output through the speaker (see col. 22, lines 30-46, col. 26, lines 15-30). Tsukamoto fails to explicitly teach wherein the control circuit comprises a memory for storing voice data as at least one voice mail message, the voice data received via the RF transceiver.

Ekelund discloses a mobile phone having voice message capability that includes storing voice data in the memory as at least one voice mail message (compressing a message received over the air interface in codec 22 and storing that message in memory 34, see col. 3, lines 62-64), and selectively converting the at least one voice mail message to a voice signal which is output through the speaker (retrieving

message form memory, decompressing the message and outputting the message from the microphone/speaker, see col. 3, lines 64-66), a display for displaying indicia of the at least one voice mail message stored in the memory (feature of message(s) stored indication being for example a lit LED or more expensive units, in which a decompressed and output message is activated, e.g., "You have 4 messages", see col. 4, lines 49-54), and an input operatively coupled to the control circuit for selecting the at least one voice mail message to be converted based on the indicia on the display (user requesting that the messages be replayed by being decompressed by codec and output over microphone/speaker 24, see col. 4, lines 44-49).

It would therefore have been obvious to one of ordinary skill in the art to combine Ekelund's mobile unit that use compression circuitry and algorithms in conjunction with a memory device to store and retrieve messages with Tsukamoto's system in order to realize the benefits of voice storage and data compression in a mobile terminal in an economical and feasible manner without adding to the size and cost of the mobile device as taught by Ekelund.

Regarding claim 24, Tsukamoto further discloses wherein each of the plurality of portable data terminals further comprises a microphone operatively coupled to the control circuit, the control circuit selectively enabling the RF transceiver to transmit voice data based on an output of the microphone (see col. 12, lines 40-49).

Regarding claim 27, Tsukamoto further discloses wherein the input means is a keypad (see key 117, Fig. 2, alphanumeric input key 159, Fig. 5).

Regarding claim 29, Tsukamoto further discloses wherein the control circuit comprises a memory for storing voice data received via the RF transceiver (see col. 3, lines 40-49).

Regarding claim 32, Tsukamoto further discloses wherein each of the portable data terminals further comprises a microphone (127, Fig. 2), and wherein the control circuit is operatively coupled to the microphone to convert a voice signal output from the microphone to outgoing voice data which is transmitted by the RF transceiver (feature of earphone and microphone serving as handset of telephone when the terminal is used as a telephone, col. 12, lines 40-42).

Regarding claim 35, Tsukamoto further discloses wherein voice data from a first of the portable terminals is transmitted to a second of the portable data terminals via the backbone network (see Fig. 1, col. 5, lines 52-68).

Regarding claim 36, Tsukamoto's Fig. 1, illustrates wherein the voice data from the first of the portable terminals is transmitted to a first of the access points and the second of the portable data terminals receives the voice data transmitted by the first of the portable data terminals via second of the access points (specifically when the terminals are used as telephones).

Regarding claim 37, Tsukamoto further discloses wherein the portable data collection network including the backbone network, the plurality of access points and the plurality of portable data terminals are disposed within a facility and facilitate communication among persons remotely located within the facility (see Fig. 1, col. 5, lines 30-65).

Regarding claim 38, Tsukamoto further discloses wherein the RF transceiver facilitates roaming of the portable data terminal among the plurality of access points (see col. 16, lines 1-16).

Regarding claim 39, Tsukamoto further discloses wherein a first of the portable data terminals and a second of the portable data terminal communicate voice data directly with each other (see col. 2, lines 13-24).

9. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tsukamoto et al and Ekelund** as applied to claim 23 above, and further in view of **Gollnick et al. (5,940,771).**

Regarding claim 26, Tsukamoto as modified by Ekelund meet all limitations as applied to claim 23 above, but the combination fails to explicitly teach wherein the RF transceiver is configured to communicate information in packets in accordance with a CSMA protocol.

The use of CSMA protocol for packet communication in local in wireless networks such as LANs is very well known in the art as taught for example by Gollnick. Gollnick discloses a data collection that supports roaming terminals (see Fig. 18). Gollnick teaches the use of standard CSMA protocol that requires a roaming terminal to listen long enough to identify an apparently clear channel before sending an RFP frame in order to avoid collisions in a data capture system (see col. 21, lines 34-67, col. 27, lines 1-46).

It would therefore have been obvious to one of ordinary skill in the art to use the CSMA protocol of Gollnick in the communication system of Tsukamoto as modified by

Ekelund in order to ensure the capability of waiting for a random period before sensing the status of a communication channel for transmission.

10. Claims 30, 31, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tsukamoto et al and Ekelund** as applied to claim 23 above, and further in view of **Amin (6,006,087).**

Regarding claims 30 and 31, Tsukamoto further discloses as illustrated in Fig. 20, voice message capability in a communication with non-ringing, as well voice message receiving in a voice message mode (see Fig. 23) and the memory stores voice data (see col. 16, lines 51-68), and a display for indicating information of communication and information inputted by the input key (see col. 12, lines 27-36), while Ekelund teaches that a user can request that messages be replayed (see col. 4, lines 39-49), but the combination fails to explicitly teach that the voice data is acquired as multiple voice messages and displaying indicia of multiple voice messages, and means for permitting an operator to select at least one of the multiple voice messages to be output through the speaker based on the displayed indicia.

Amin discloses a system for delivering a voice mail notification to a subscriber of a voice mail system to indicate that a voice mail is waiting in a subscriber mailbox (see abstract). According to Amin, the cellular telephone has a storage device and a display for storing and displaying a plurality of voice mail notifications, with the display having the capability of showing an index which includes an appended number corresponding to the voice mail and the index of all voice messages is stored within the phone such that the display can be scrolled to indicate the various identities of the

stored messages such that a user can retrieve a specific message by highlighting a specific message and pressing a send button positioned on the phone (see col. 1, line 30 to col. 2, line 9, col. 4, lines 44-67).

It would therefore have been obvious to one of ordinary skill in the art to combine the voice mail notification system of Amin with Tsukamoto as modified by Ekelund's communication system in order to forward voice mail message notification indicating that a subscriber has one or more voice mail messages for selective retrieval in an efficient manner as taught by Amin.

Regarding claim 33, the combination of Tsukamoto, Ekelund and Amin further teach wherein a voice data storage device coupled to the backbone network initially stores the voice data intended for one of the portable data terminals (see Amin, Fig. 1, col. 1, lines 43-48, col. 2, lines 35-46), and each portable data terminal periodically polls the voice data storage device in order to prompt the voice data storage device to transmit the voice data to the portable terminal as inherently taught by the mobile station gaining access to a private base station through a registration/network update procedure (see Amin, col. 8, 33-59).

Regarding claim 34, the combination of Tsukamoto, Ekelund and Amin further teach (as taught by Amin) wherein the voice data storage device is a hot computer coupled to the backbone network (see voice mail system of Fig. 1).

11. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tsukamoto et al and Ekelund** as applied to claim 23 above, and further in view **of Kim (6,505,040).**

Regarding claim 25, Tsukamoto as modified by Ekelund fail to teach wherein the control circuit of each portable data terminal is operative to effect conference calling between at least three different portable terminals.

Kim discloses a method of making a multi-party conference call on a mobile phone (see abstract), which include the feature of automatically inviting multiple parties fro a remote conference by storing the information in a phone beforehand (see col. 1, line 66 to col. 2, line 23, col. 2, lines 40-56).

It would therefore have been obvious to one of ordinary skill in the art to incorporate the automatic conference set up feature of Kim with Tsukamoto and Ekelund data communication system in order to avoid having to set up a multiparty conference using laborious manual key pressing to connect all parties participating in a conference.

12. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tsukamoto et al and Ekelund** as applied to claim 23 above, and further in view of **Ghisler et al. (5,539,807).**

Regarding claim 28, Tsukamoto as modified by Ekelund fail to teach wherein the input means is a bar code reader for inputting barcode information.

Ghisler discloses a system for enabling a subscriber with a radio terminal to use another terminal that that barcode reader is connected to the terminal for the capability of scanning a telephone number without the need to enter the number with the aid of a keypad (see col. 4, lines 37-48, Fig. 2).

It would therefore have been obvious to one of ordinary skill in the art to provide the barcode reading feature of Ghisler to Tsukamoto and Ekelund's data communication system in order to provide the option of having a barcode reader to input data.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Helferich (5,003,576) discloses an analog/digital voice storage cellular telephone terminal for recording and storing voice messages.
Parvulescu et al. (6,029,063) discloses a wireless telephone with voice recording capability.
Nichols (5,109,525) discloses a two-way radio with voice storage.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Appiah whose telephone number is 571 272-7904. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 571 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CA

CHARLES APPIAH
PRIMARY EXAMINER